

## **CERTIFICATE OF TRANSLATION**

As a below named translator, I hereby declare that my residence and citizenship are as stated below next to my name and I hereby certify that I am conversant with both the English and Korean languages and the document enclosed herewith is a true English translation of the Priority Document with respect to the Korean patent application No. 1997-32239 filed on 11 July 1997.

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**CITIZENSHIP : REPUBLIC OF KOREA**

## **[ABSTRACT OF THE DISCLOSURE]**

### **[ABSTRACT]**

Disclosed is a method for selecting a channel in a multichannel TV receiver. The channel selecting method enables a user to more rapidly and easily select a channel in a multichannel TV receiver. The method comprises the steps of: displaying a particular number of channels covered by a bar in a multichannel display area on a display of the TV receiver in response to a user's command for channel selection; changing and displaying channels according to the movement of the bar; and tuning a channel selected by the user among the displayed channels.

### **[REPRESENTATIVE FIGURE]**

FIGURE 2

15 **[INDEX]**

**[SPECIFICATION]**

**[TITLE OF THE INVENTION]**

**METHOD FOR SELECTING CHANNELS IN MULTICHANNEL  
TELEVISION RECEIVER**

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**[BRIEF DESCRIPTION OF THE DRAWINGS]**

FIG. 1 is a block diagram of a HDTV to which the present invention is applicable;

FIG. 2 is a flow chart showing a process of selecting a channel according  
10 to a preferred embodiment of the present invention; and

FIG. 3 shows a channel selection menu displayed according to the preferred embodiment of the present invention.

**[DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT]**

15 **[OBJECT OF THE INVENTION]**

**[RELATED FIELD AND PRIOR ART OF THE INVENTION]**

The present invention relates generally to a multichannel television ("TV") receiver, and more particularly to a method for selecting a channel in a multichannel TV receiver.

20 While traditional analog TV broadcasting service delivers TV programs on less than ten channels, multichannel TV broadcasting, such as cable or digital TV broadcasting, provides programs on a very large number of channels.

Accordingly, it is very difficult for a user to memorize all channels offered by multichannel TV broadcasting so as to directly select a particular

channel in a multichannel TV receiver. Also, it is time-consuming to search for and select a particular channel among a great number of channels, using a channel up/down key.

## **5 [SUBSTANTIAL MATTER OF THE INVENTION]**

As described above, it is very difficult for a user to directly select a particular channel in a multichannel TV receiver. Also, it takes much time to select a particular channel among a great number of channels, using a channel up/down key.

10 It is, therefore, an object of the present invention to provide a method for rapidly and easily selecting a channel in a multichannel TV receiver.

## **[CONSTRUCTION AND OPERATION OF THE INVENTION]**

In order to accomplish the object, the present invention provides a  
15 method for selecting a channel in a multichannel TV receiver, comprising the steps of: displaying a particular number of channels covered by a bar in a multichannel display area on a display of the TV receiver, in response to a user's command for channel selection; changing and displaying channels according to the movement of the bar; and tuning a channel selected by the user among the  
20 displayed channels.

Hereinafter, a preferred embodiment of the present invention will be described with reference to the accompanying drawings. Although certain process and picture are specifically exemplified in the following description of the present invention and in the drawings, it will be obvious to those skilled in

the art that such examples are merely to improve understanding of the present invention and that the present invention is not limited to such specific examples. Also, in the following description of the present invention, a detailed description of known functions and configurations incorporated herein will be omitted when it may make the subject matter of the present invention rather unclear.

FIG. 1 is a block diagram of a HDTV, one of next-generation multichannel TVs, to which the present invention is applicable. Referring to FIG. 1, a tuner 102 tunes an RF channel selected by the user from broadcasting signals received through an antenna 100 under the control of a microprocessor 124, and outputs an intermediate frequency (IF) signal. An IF module 104 converts the IF signal into a baseband signal and outputs the baseband signal to a channel decoder 106. The channel decoder 106 decodes the baseband signal received from the IF module 104 and reproduces a transport stream (TS).

A TS decoder 108 separates an audio stream and a video stream of a program selected by the user from the TS and outputs the separated streams under the control of the microprocessor 124.

The audio stream is applied to an audio decoder 110 to restore audio data. An audio processing section 112 processes the restored audio data and outputs it as a sound signal to a speaker 114. The video stream is applied to a video decoder 116 to restore video data. The restored video data is applied to an OSG (On Screen Graphic) mixer 118 to be mixed with OSG data under the control of the microprocessor 124. A video processing section 120 processes the mixed data and outputs it as a video signal to a picture tube 122.

The microprocessor 124 operates according to a command inputted from

a keypad 128 or a pointing device 130 through a user interface 134, based on a program stored in a memory 126. A command applied from the pointing device 130 is received as an IR signal by the IR receiver 132 and transmitted to the user interface 134. Also, additional data, including EPG information, is applied to the microprocessor 124 from the TS decoder 108 so that the microprocessor 124 can detect information about all channels on which programs are being broadcasted.

The memory 126 comprises a ROM (read only memory) for storing a program of the microprocessor 124, a RAM (random access memory) for temporarily storing data according to the implementation of the program of the microprocessor 124, and an EEPROM (electrically erasable and programmable ROM) for storing various reference data.

A process of selecting a channel according to the preferred embodiment of the present invention will be described in more detail with reference to FIG. 2. At step 136, the microprocessor 124 determines whether the user has inputted a command to display a channel selection menu by operating the keypad 128 or the pointing device 130. If such a command has been inputted, the microprocessor 124 will proceed with step 140. Otherwise, the microprocessor 124 will proceed with step 138.

At step 140, the microprocessor 124 displays the channel selection menu which consists of a channel window 150 and a scroll bar window 152 as shown in FIG. 3. The channel window 150 displays channels included in a channel area covered by a scroll bar 158. The scroll bar window 152 has an up arrow button 154 and a down arrow button 156 at the top and bottom thereof. The up

arrow button 154 and the down arrow button 156 are used to move the scroll bar 158 up or down by one channel within the channel area.

The channel area between the up arrow button 154 and the down arrow button 156 corresponds to the number of channels detected by the microprocessor 124. The lower end of the up arrow button 154 corresponds to the first channel in the channel area, whereas the upper end of the down arrow button 156 corresponds to the last channel. The scroll bar 158 can move up or down within the channel area which includes a particular number of channels. Channels included in the channel area covered by the scroll bar 158 are displayed in the channel window 150.

The user can drag and move the scroll bar 158 using the pointing device 130. When the user clicks an area where the scroll bar 150 is not positioned, the scroll bar 150 moves to the clicked position. Also, when the user clicks the up arrow button 154 or the down arrow button 156 using the pointing device 130, the scroll bar 158 moves up or down by one channel.

After displaying the channel selection menu, the microprocessor 124 proceeds with step 142 for detecting a movement of the scroll bar 142. If the scroll bar 158 moves according to the operation of the pointing device 130, the microprocessor will proceed with step 144. Otherwise, the microprocessor 124 will proceed with step 146.

At step 144, the microprocessor 124 displays channels, which are included within an area covered by the moved scroll bar 142, in the channel window 150 and proceeds with step 146.

At step 146, the microprocessor 124 determines whether the user clicks

and selects one of the channel numbers listed in the channel window 150 using the pointing device 130. If a channel is selected, the microprocessor 124 will proceed with step 148. Otherwise, the microprocessor 124 will proceed with step 142 for displaying channels in another channel area according to the movement of the scroll bar 158.

At step 148, the microprocessor 124 tunes a channel selected by the user.

As described above, according to the present invention, the user can first select a channel area including a plurality of channels by moving a scroll bar and then select a desired channel among the channels displayed in the channel area.

10 The present invention enables the user to rapidly and easily select a channel, when compared to direct channel selection or selection using a channel up/down key.

While the invention has been shown and described with reference to a certain preferred embodiment thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the invention as defined by the appended claims. Therefore, the present invention is not to be unduly limited to the embodiment set forth herein, but to be defined by the appended claims and equivalents thereof.

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#### **[EFFECTS OF THE INVENTION]**

In accordance with the present invention as described above, it is possible to rapidly and easily select a channel in a multichannel TV receiver.



**[PATENT CLAIMS]**

1. A method for selecting a channel in a multichannel TV receiver,  
comprising the steps of:
  - 5 displaying a particular number of channels covered by a bar in a  
multichannel display area on a display of the TV receiver, in response to a user's  
command for channel selection;  
changing and displaying channels according to the movement of the bar;  
and
  - 10 tuning a channel selected by the user among the displayed channels.

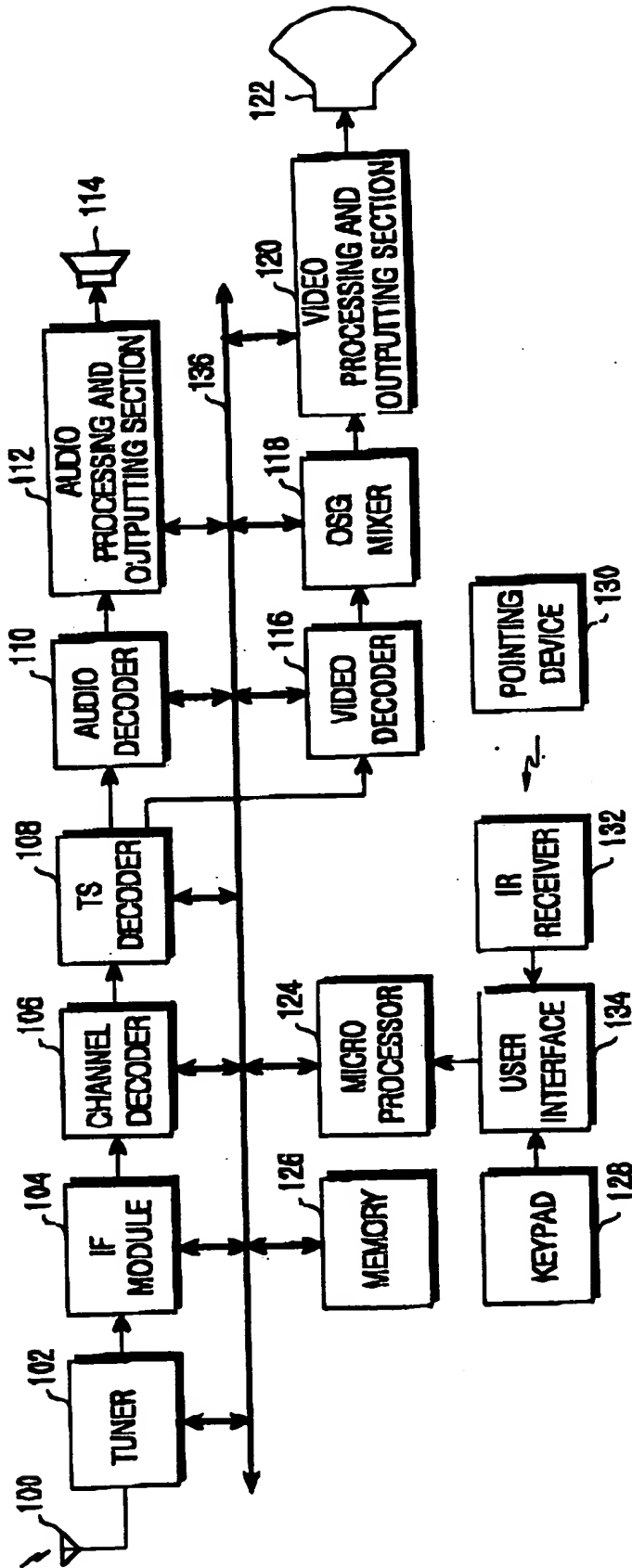


FIG.1

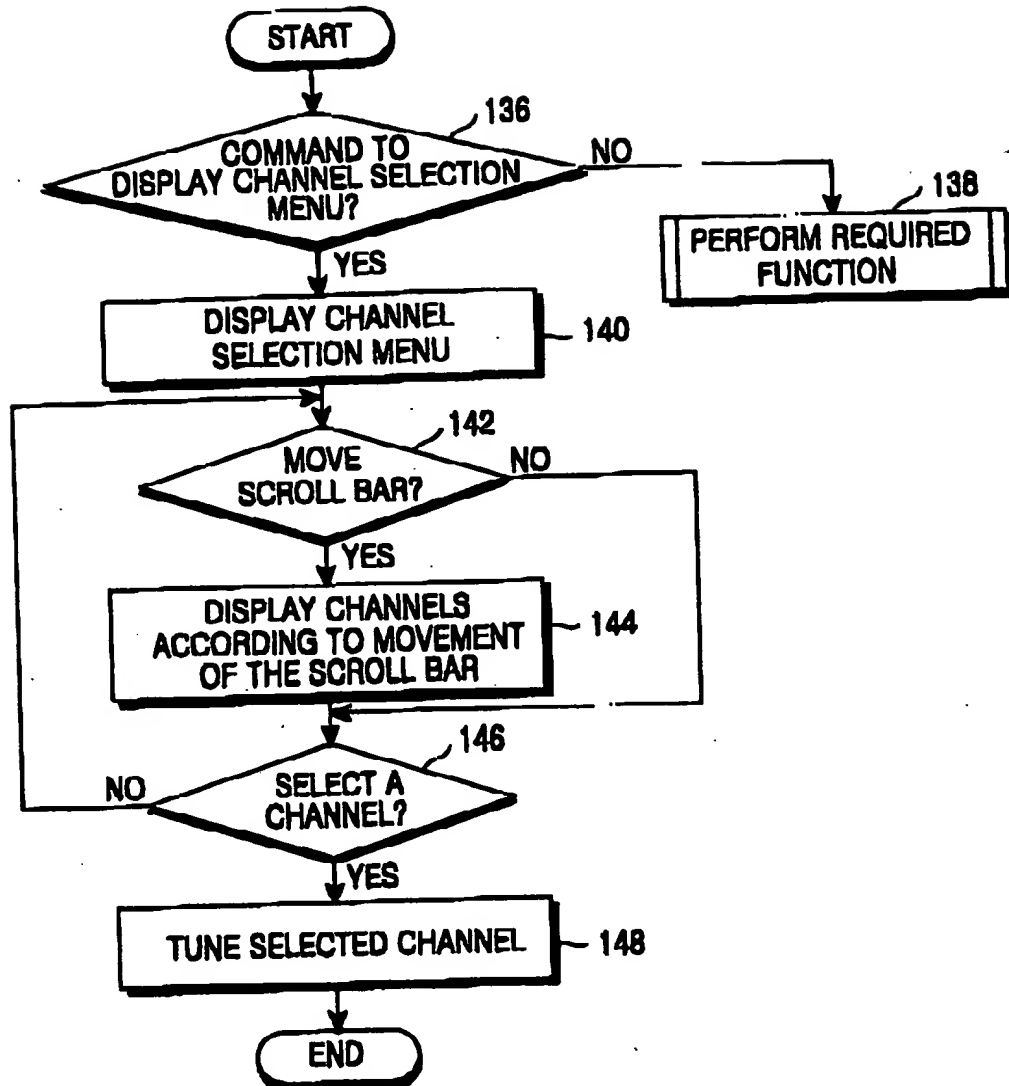


FIG.2

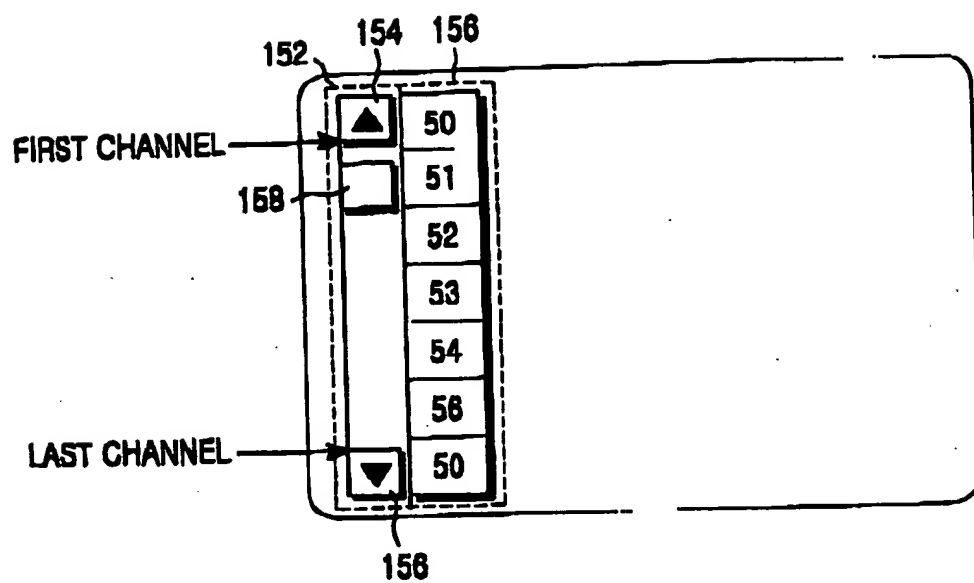


FIG.3